



Description.

Underheat type of electric heater designed and developed by agricultural engineers at Purdue University for heating pig brooder in farrowing house. Taken by T.E. Hienton. 1939.

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30023

Indiana

Lafayette

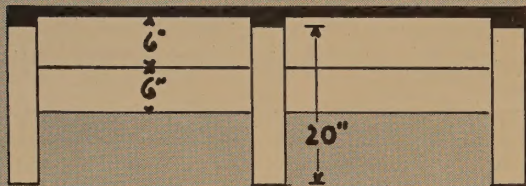
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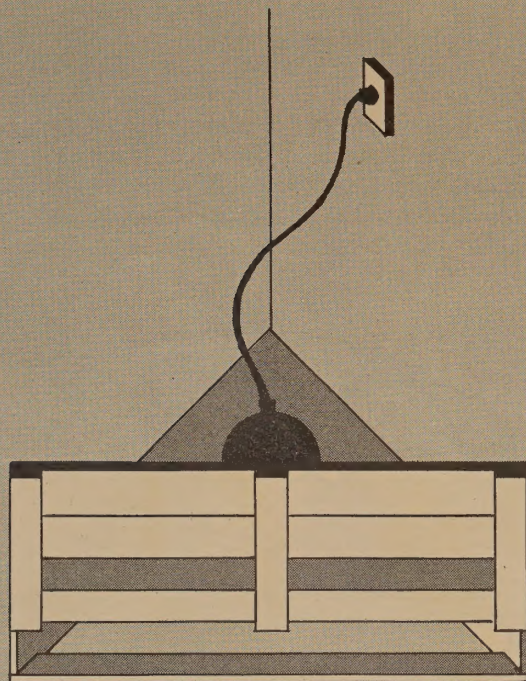
Description.

Underheat or griddle type of electric heater for use in pig brooder at Purdue University.
Taken by T.E. Hienton. 1939.

6. Take the three 1" x 4" x 20" pieces and the two 1" x 6" x 6'-0" pieces and assemble guard rail as shown in drawing.



Place the brooder in corner of farrowing house. Nail the guard rail to brooder as shown and toenail guard rail ends to pen sides.



AFTER IT'S BUILT, HERE ARE SOME HELPFUL HINTS ON OPERATION

The brooder in operation.—The sows should be placed in the pens a day or so before farrowing, and the heat turned on in the brooder several hours before the pigs arrive. The heat is ordinarily kept on continuously for 10 days, and if the weather is cold, often for 2 weeks. The pigs can be placed under the brooder by hand till they learn to go under voluntarily. In some cases placing the pigs under the brooder once or twice is sufficient, while in other cases it takes a day or two of training or occasional attention. Keeping the pigs under the brooder (by blocking the brooder entrance) for several hours soon after they are born, until they are warm and dry, is generally helpful.

Guard rails should never be removed when brooders are installed.

The brooder must always be securely fastened in place. If it is desired to move the brooder from one farrowing pen to another provision should be made to bolt it securely in place in each pen.

Equipment used, energy consumption.—The reflector is ordinarily about 12" or 14" in diameter and should be deep enough so that the bulb will not touch the hardware cloth on which it rests. This cloth serves as a protection to the lamp, without obstructing the flow of heat.

If the farmer preferred, a satisfactory reflector can be made from a deep aluminum cake pan.

Heat requirements vary according to temperature, but in general the 150-watt bulb is satisfactory. The reflector for a 150-watt bulb is 14" in diameter. With a 150-watt bulb, the normal energy consumption per litter is around 36 kw.-hr., and should never exceed 50 kw.-hr. per litter.

Protection of brooder.—The sow often has a tendency to break up the brooder, so a tight barricade of boards is placed in front of the brooder from a height of about 2' 3" above the brooder and extending down so as not to leave over 3" or 4" between the top of the brooder and the bottom of the barricade. Be sure the cord to the reflector and bulb is out of reach of sow.

RURAL ELECTRIFICATION ADMINISTRATION • U. S. DEPARTMENT OF AGRICULTURE

WASHINGTON, D. C.

First

• BEFORE YOU BUILD BROODER, CHECK THIS COMPLETE LIST OF NECESSARY MATERIALS

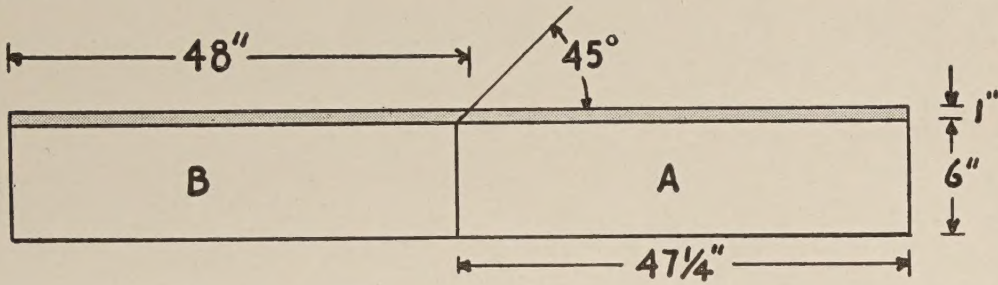
Units	Thickness, width, length	Cut from stock lumber materials	Use	Approximate cost	Source
1 piece.....	1" x 12" x 48"	} 1-1" x 12" x 8'.....	Brooder sides.....	\$0.32	Any lumber company.
1 piece.....	1" x 12" x 47 1/4"				
2 pieces.....	1" x 4" x 67 3/4"		Braces.....	.32	Any lumber company.
2 pieces.....	1" x 6" x 6'		Brooder guard rail.....	.24	Any lumber company.
3 pieces.....	1" x 4" x 20"		Guard rail braces.....	.15	Any lumber company.
1 piece.....	1/2" 5-ply plyboard, triangular shaped (48" x 48" x 67 3/4").....	1" x 48" x 96" will supply 4 roofs.	Triangular roof.....	.64	Any lumber company.
Units	Other materials		Use	Approximate cost	Source
1 strip.....	Strip hardware cloth, 1/2" mesh 18" x 18", will supply 1 roof.		Keep reflector from falling through.....	\$0.30	Any lumber company.
1/2 lb.....	8d common nails.....			.05	Any lumber company.
1/2 lb.....	6d common nails.....			.05	Any lumber company.
1/2 lb.....	Wire staples.....			.07	Any lumber company.
1.....	14" RLM reflector, enameled.....			1.25	Any electrical dealer.
1.....	100-watt or 150-watt lamp.....			.25	Any electrical dealer.
1.....	Weatherproof socket.....			.15	Any electrical dealer.
1.....	10' rubber covered extension cord.....			.25	Any electrical dealer.
Total.....				\$4.04	

Tools: Light clawhammer, hand saw, tin cutters, steel square, keyhole saw.
Note.—All wood must be sound, preferably cured. Any local variety should be satisfactory.

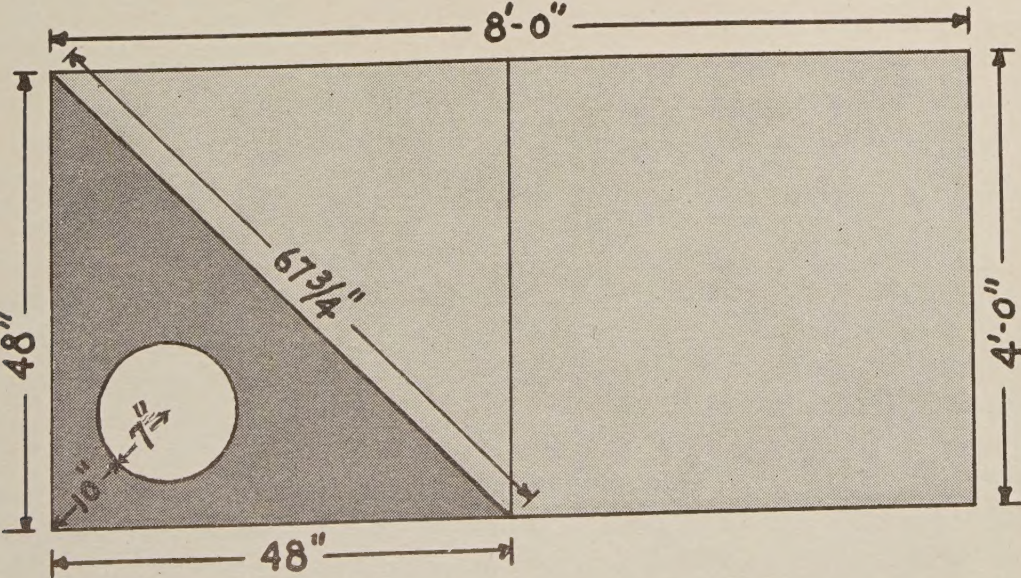
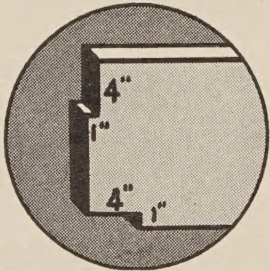


Next

CUT MATERIALS TO SIZE



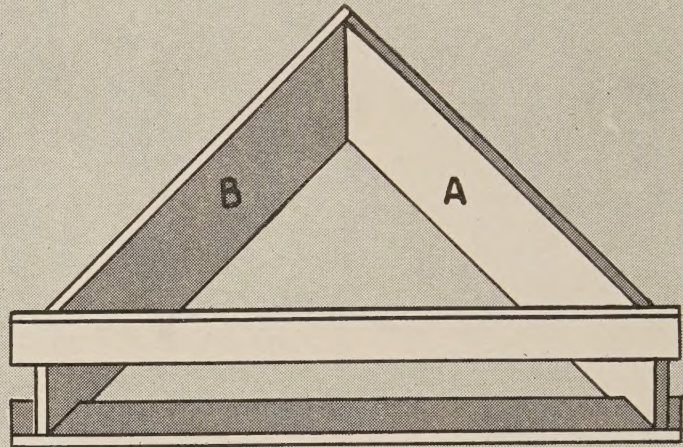
1. Cut the 1" x 12" x 96" board diagonally at 45°, in such a manner as to make two boards, A and B (Letters A and B refer to notation on drawing). The longer edge of A must be 47 1/4" and the longer edge of B must be 48". The opposite end of each board must be square. Notch the beveled end of each piece as shown in detailed drawing.
2. Cut the 1" x 4" x 12'-0" board in half, for two braces of the required length. The braces may be fitted into the notches cut in the sides, and nailed. The corners may then be cut off flush with the sides to give a finished job.
3. Cut 1" x 4" x 6'-0" board into three pieces 1" x 4" x 20" for guard rail uprights.
4. Cut the 1/2" mesh hardware cloth to 18" x 18", if not purchased in this size.
5. Cut a standard sheet of 5-ply plyboard, 4'-0" x 8'-0", 1/2" in thickness, into two equal parts 48" x 48". Cut one piece diagonally from one corner to the opposite corner, making two triangular pieces size 48" x 48" x 67 3/4". One standard sheet 4'-0" x 8'-0" will make 4 triangular shaped pieces suitable for the roofs of 4 brooders.



6. From the corner of the triangular plyboard, opposite the long side, draw a line to the middle of the long side. The midpoint of this line is 17" from the long edge, and 17" from the corner opposite the long edge. Using the midpoint as center, mark out a circle 14" in diameter or with 7" radius. Cut out this 14" circle from the board using a keyhole saw or other cutting device for this purpose.

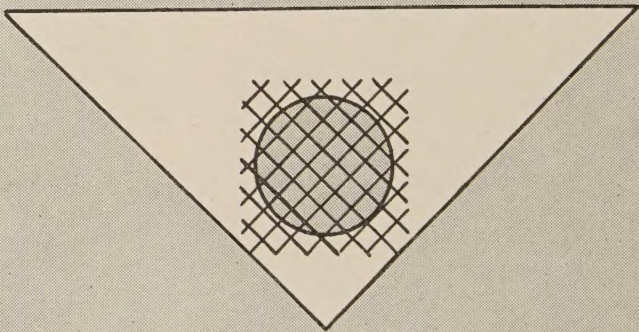
Lastly—FOLLOW THIS ORDER IN ASSEMBLING ELECTRIC PIG BROODER

1. Set up sides. The square end of the 1" x 12" x 47 1/4" board (A) must be butted at right angles against the side of the 1" x 12" x 48" board (B) at its square end. The ends must be flush. Nail these sides together with 8d common nails.

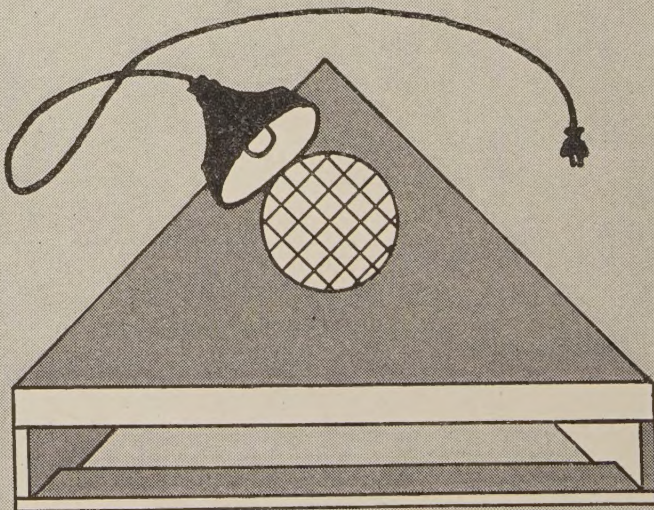


2. Fit and nail braces into the notches which were cut in beveled end pieces A and B. It will not be necessary to make any special diagonal cuts on these braces before they are fitted into the notches. When they have been rigidly nailed into place as shown in the drawing, the protruding corners may be sawed off flush with the sides. This will give a neat, well-finished appearance to the job.

3. Staple the 18" x 18" hardware cloth to the lower side of the plyboard roof, covering the 14" hole.



4. Fit the plyboard roof into place as indicated by the drawing. It should be nailed to the top edges of the sides and top front brace of the brooder. Use 6d common nails.



5. Insert lamp assembly and 14" reflector in roof hole so that lamp cannot move out of position.

IT'S EASY AND CHEAP TO BUILD AN ELECTRIC PIG BROODER

Few pieces of home-made farm equipment give so big a return for so little cost as the electric pig brooder.

It's a lifesaver for little pigs.—The electric heat prevents chilling when the weather is cold; and the chances of crushing by the sow are sharply reduced. Experience shows that three-quarters of all pig losses occur within 2 days after farrowing. The electric brooder usually cuts these losses by half, or even better.

It means more cash income.—Every pig saved means more money in your pocket at the time of marketing.

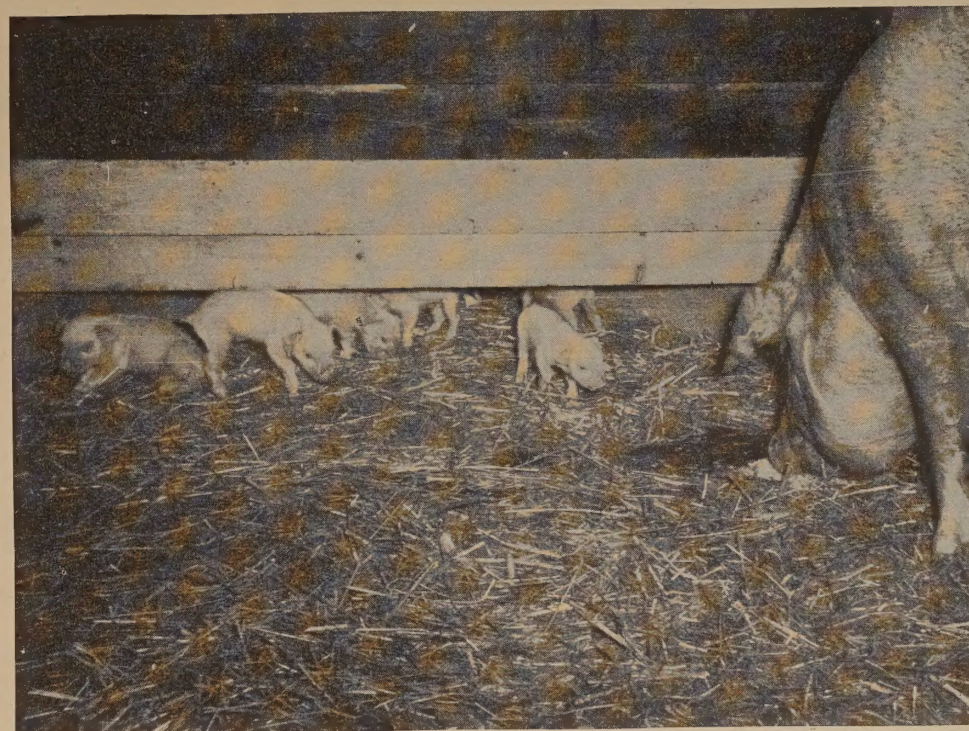
It costs very little to build.—The only material required is a little lumber, a reflector, an electric lamp, and a few odds and ends. More than likely you already have enough material on hand and it will take very little time to build it.

It's cheap to operate.—The operating cost is extremely low—only the cost of burning a 100- or 150-watt lamp.

It adds no fire hazard.—There is no danger of overheating for electric heat is steady and reliable.

If you want to put electricity to work on your farm with a low investment, you can build the electric pig brooder described in this folder. You can build this brooder to suit your own needs. You will probably be surprised at the way the little pigs run for the electric heat instead of the sow; and you will be pleased by the number of pigs you save. The electric pig brooder, costing so little to build and operate, will help you take an important forward step toward the profitable use of electricity.

THE ELECTRIC PIG BROODER



MAKE IT YOURSELF AND MAKE MONEY